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ABSTRACT

This paper reviews research on parent education programs in which training efforts were focused on low income mothers. Three model strategies for training low income parents are identified: (1) individual consultation, in which a parent consultant works on a one-to-one basis with the parent-child dyad, usually in the home; (2) group consultation, in which the parent educator works with several parents simultaneously, often at an early childhood center; and (3) a combination of the two. Several studies assessing the effects of each model on parent-child functioning are discussed. Also included is a discussion incorporating research evidence and the author's informal observations on four topics: (1) characteristics of effective parent education programs, (2) effects of these programs on parent and child behavior, (3) characteristics of parents who benefit from such programs, and (4) differential effects of various programs on parent populations having varied characteristics. A six-page bibliography is included. (JMB)

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# Training Parents As Home Teachers: A Review of Research

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Running Head: Training Parents

Abstract

The effects of individual, group, and combined parent training programs on parent-child functioning are discussed. Long-term consultation programs appear to be most effective. Such programs significantly enhance children's language and cognitive development. Changes in parental self-regard, skill in designing a learning environment, teaching ability, responsiveness and regard for the child have been reported. Needed directions for future research are discussed.

Evidence about the effectiveness of parent education is small in comparison to the abundance of programs in operation. Many early childhood programs have developed parent education components; in very few of these has data about their effect on the children and families served been collected. Besides, what is parent education? Limiting that domain to programs which enhance the functioning of the adult as child-rearer hardly simplifies the task. Discussion group techniques to improve parent-child communication and discipline strategies must be included. Home visitor programs, parent and infant/toddler group, cooperatives; the strategies are endless and the populations diverse.

Chilman (1973) and White, Day, Freeman, Huntman, and Messenger (1973) have noted that traditional casework and community organization strategies in parent education have not proved to be particularly effective with low income populations. Very little research has been conducted about the effectiveness of parent education with middle income groups. Parent involvement and education programs in Head Start and Follow Through have produced some significant effects (MIDCO Educational Associates, 1973). Of the federal programs, Project Home Start has provided the most systematic data about the effects of parent education with low income parents (Love, Nauta, Coelen, Hewett, & Ruopp, 1976). The relatively recent initiation of research oriented parent-child development centers and media based parent education projects in addition to others will increase the amount of information we have about the effects of a variety of parent education strategies.

The focus of this review is on those training studies which have involved low income mothers. These studies have generally been carefully designed and controlled to test specific hypotheses and provide the most

trustworthy data base upon which to build future research. Through systematic survey of this area we may well be able to generate sound hypotheses, which can guide research with other populations (e.g. the middle class; fathers).

Three different strategeis have been used to train low income parents: individual consultation, group consultration, and a combination of the two. In individual consultation models, a parent consultant works on a one to one basis with the parent-child dyad, usually in the home. In group consultation models, the parent educator works with several parents simultaneously, often at an early childhood center. A variety of combined models have been implemented to capitalize on the assumed benefits of the individual and group models.

## Individual and Consultation Models

The most promising data about the benefits of parent education have come from projects utilizing the home visitation strategy. Other individual consultations models have been implemented in pediatric clinics, public libraries, schools, early childhood centers, shopping centers, and research laboratories. Each of these may be more accessible and convenient for particular sub-groups of parents. Unfortunately, little data is available about which settings are more effective in reaching populations with particular characteristics.

### Toy Demonstrator Project

Phyllis Levenstein, (1970, 1974) has refined a program enhancing the verbal interaction skills of mothers of two-and three-year-old children. Professional or para-professional toy demonstrators visited in homes for one-half hour, twice a week, for seven months. Over the two-year period, twenty-four toys and books were presented to the mother

in a planned weekly sequence. For each toy book unit, simple activities were first demonstrated to the mother. After she had successfully implemented these simple activities with her child, she was taught to implement more complex activities. Demonstrators functioned as consultants to the parent, rather than as a tutor to the child.

Data from three replications of the original study support its findings that the parent education program results in a significant improvement in young children's intellectual functioning (Levenstein, 1974). In addition, the Toy Demonstrator Program has proven effective when disseminated to sites and projects monitored and implemented by others. Children participating in the program have manifested very consistent gains in IQ: 16-18 points. One group maintained a gain of 15 points in IQ until the end of the first grade. This rather dramatic finding must be interpreted cautiously, as the same intelligence test was not used at each testing period. A comparison group matched on the "same low-income criteria" (Levenstein, 1974, p. 7) performed significantly less well on the Wechsler Intelligence Scale for Children, the Stanford-Binet, the Peabody Picture Vocabulary Test, and the math and reading subtests of the Wide Range Achievement Test. Blind ratings by teachers indicated that children in the experimental group coped with school more effectively. A second cohort which was followed into kindergarten manifested a gain of 24 IQ points.

However, in interpreting these findings it must be noted that experimental and comparison subjects were not randomly assigned. Parents of children in the experimental group were typically volunteers, and probably differed from comparison subjects on a number of dimensions related to children's intelligence and school achievement: maternal

self-concept, achievement motivation, and skill in exploitation of community resources, etc.

The Florida Parent-Infant Education Project

In the late 1960's and early 1970's Ira Gordon and his associates compared the effectiveness of various parent education treatments which differed in duration of treatment, age when intervention began, and in the setting of the program (Gordon & Guinagh, 1974). Low-income black mothers participated when their infants were between 3 and 36 months of age. Their children were followed until they were six years of age.

Gordon and Guinagh concluded that home based intervention programs spanning less than two years were ineffective. Two years of home visitation followed by one year of participation in the home learning center program was most effective. However, parents participating in two years of home visitation had children with significantly higher IQ's than controls when these children were six years of age. No significant differences between groups were found in children's achievement of in their task orientation.

Maternal attitudes and behavior also were signficantly changed. Experimental group mothers reported greater willingness to allow children to choose occupational goals. They expected children to complete more schooling, and viewed them as more competent. Older siblings were seen by these mothers as potent educational agents for younger siblings. These mothers were also more likely to continue their own educational and personal development. Experimental group mothers manifested greater press for language development. They were observed to be more aware of their child's development, more likely to reward intellectual development, more skilled in providing a learning environment and more likely to utilize

community resources to promote children's learning.

Significant relationships were found between maternal variables observed when the child was 3 and the child's IQ at age 6. Maternal locus of control predicted children's IQ only in the experimental group; mothers high in internal control had children with high IQs. In addition, for experimental mothers alone, self-ratings of personal appearance were predictive of the child's later intellectual functioning

Ypsilanti-Carnegie Infant Education Project

Lambie, Bond, and Weikart (1974) reported short and long-term effects of a 16 month home-based project for infants between 3 and 27 months. Low-income, largely black mothers residing in a small northern industrial city, were randomly assigned to one of three treatment groups: extensive treatment, placebo, and a test-only group. In the extensive treatment group, a professional visited the home weekly and demonstrated various sensorimotor activities to the mother. The curriculum was personalized; home visitors planned activities reflective of the particular goals each mother seemed to have conceptualized for her child. Found materials, readily available in most of the homes, were used.

Mothers, in the placebo group, were visited early in the project by college students, and later by older community volunteers. No systematic educational program was implemented. The third group of mothers was not visited regularly, but they observed the periodic testing of their children.

Children in the experimental group scored significantly higher on the Stanford-Binet than children in the placebo group, but not higher than children in the test-only group. One year after intervention there were no significant differences between the groups in intelligence; the rank

order of group means from highest to lowest was experimental, test-only and placebo. Similar results were found for children's language development; children in the experimental group performed significantly better on tests of comprehension and production than the children in the placebo group, but not the children in the test-only group. Groups did not differ at the end of treatment in motor development, or in socio-emotional development. But experimental-group children manifested more responsivity to people, and more imaginative play.

Maternal behavior was significantly effected by treatment. Experimental-group mothers demonstrated more appropriate verbal behavior when teaching their infants. They elaborated more on statements uttered by the child, questioned more, gave fewer directions, and used fewer negative controlling statements. These mothers showed significantly more positive behavior while the child was being tested (i.e. looking at the child, smiling, expressing warmth, providing supporting interference.) No difference between groups was found in the mother's ability to pinpoint the developmental level of her child.

The comparable performance of the treatment group and the test-only group raises several questions: (1) the curriculum may have differed substantially for each mother-infant dyad; (2) diverse and specific effects may have been produced, but not assessed by a global instrument like the Stanford-Binet; (3) and quality control of curriculum activities may be a more difficult task in the personalized treatment strategies.

The surprisingly competent peformance of the children in the test-only group and their mothers in comparison to the two other groups led Lambie et al. to interpret this as a minimal treatment. Allowing mothers to observe the frequent testing sessions may have acquainted

them with the type of skills that intellectually-competent children need to develop. This may have prompted these mothers to design and utilize appropriate learning activities. It would be quite useful to know the characteristics of the population for whom testing would constitute an effective parent education treatment.

Home Start

Data from the national Home Start evaluation study is generally supportive of findings of other research studies investigating individual parent consultation models (Love, Nauta, Coelen, Hewett, & Ruopp, 1976). In Home Start programs, parents were visited in their homes generally twice a month, for one and one-half hours. The home visitors, the child, and the parent participated in the visit. Approximately half of the time was spent teaching the parent to use specific learning activities with the child. During the remaining time, parental concerns were addressed. The home visitor also helped parents utilize nutritional, health, social and psychological services more effectively.

Children participating in Home Start for either seven or twelve months performed signifcantly better than nonparticipating children on tests of school readiness and language development. Home Start children were also rated higher on measures of task orientation. No differences were found in the quality of the children's diet or in the number of immunizations received. However, Home Start mothers were more likely to report that their child received adequate medical care than were non-Home Start mothers.

Home Start mothers also reported spending more time teaching reading and writing skills to their children. They were observed to talk more to their child, they used more task-appropriate language, allowed their child

to help with household tasks, provided more toys and books, and read more to their child. No significant benefits were produced by extending the length of the program; participants in a seventh-month program performed as well as those in a twenty-month program.

The DARCEE Home Visitor Program

Susan Gray and her associates at the Demonstration and Research Center for Early Education (DARCEE) have conducted a series of studies which have examined the effects of home visitation programs on maternal teaching style and on children's development (Barbrack & Horton, 1970; Forrester, Harge, Outlaw, Brooks & Boisemeier, 1971; Gilmer, Miller & Gray, 1970; Sandler, Dokecki, Stewart, Britton, & Horton, 1973). Forrester, Harge, Outlaw, Brooks, and Boismeier (1971) found that infants made significant gains in intellectual and motor development after their mother's participation in a six month home visitation program.

Gilmer, Miller and Gray (1970) documented a "vertical diffusion" effect: children other than the target age child appear to benefit when the mother is trained. Younger siblings close in age to the target child seemed to benefit the most. What accounts for this phenomenon is not clear. Were trained mothers more skilled in generalizing what was learned to their interaction with younger children? Or was the home visitation treatment structured such that all children within a specific age range were considered the target of treatment? Perhaps both were operative. However, there is a considerable need for research examining the extent to which trained mothers transfer these new skills to other children and situations.

Barbrack and Horton (1970) reported that home visitation by either a professional or a paraprofessional worker improved mothers' teaching and behavior control techniques. In addition, participants' children performed significantly better on tests of basic concepts. Similar findings have been reported in a subsequent study conducted by Sandler, Dokecki, Stewart, Britton, and Horton (1973). At the end of twelve weeks of participation mothers utilized more appropriate cue labels and fewer inappropriate directions when teaching their child.

Additional Research on Individual Consultation

Other individual consultation approaches have yielded similar significant results. In a five month home-based program with Jamaican mothers and their three year olds, experimental-group children made significant gains on the Griffith Mental Development Scale and the Peabody Picture Vocabulary Test. Girls made significantly greater gains than boys. Children who made the largest gains had mothers who were rated by home visitors as more cooperative. Experimental-group mothers reported becoming more aware of their child's mental abilities, of the educational value of toys, and of the importance of playing with their child. No changes were found in the mother's knowledge of appropriate methods of reading to the child, in their preference for positive over negative control techniques, in their reported participation in fantasy play with the child, or in time spent interacting with the child. There were no differences in the amount of time participating and non-participating mothers spent with their children. But, participating mothers' interactions with their children were more effective in fostering intellectual development.

White, et al. (1973) and Carew (1976) have found that mothers of very competent children spend more of the total interactional time engaged in highly intellectually stimulating activities. However, no difference in total interaction time was found for mothers of less competent children compared to those of the highly competent ones. The way that this time was used appeared to be critical.

Mann (1970) developed a ten week intensive intervention program utilizing micro-teaching in training lower SES black parents to use specific verbal interaction techniques. Parents were taught elaboration, extension, and verbal reinforcement techniques to help their children learn to name objects, describe pictures, identify actions, make predictions, define relationships and associations, and to develop long as well as short-term memory skills. Parents in the study were randomly assigned to one of three groups: experimental, control, or placebo. In the placebo group, mothers met to discuss black consciousness while their children attended a day care program.

Experimental-group mothers and their children made significantly greater gains in syntactical usage, and in the use of complete sentences. These mothers talked more and manifested a greater variety of verbal behaviors after training. Experimental-group children performed significantly better on a test of concepts. Mann attributed this change to the mother's tendency to provide significantly more corrective feedback to her child. Stallings (1976) has reported that children whose teachers provided high levels of corrective feedback scored signifcantly higher on reading and computation achievement tests. Soar and Soar (1973) found a signifcant relationship between this type of adult-child interaction and concrete-simple learning in primary classes.

Highberger and Brooks (1973) found that the receptive vocabulary of Head Start children was significantly improved when their parents were trained in story reading. Henderson and Garcia (1973) trained mothers to use modeling and selective reinforcement techniques in teaching their children causal questioning strategies. After training, their children manifested higher levels of such questions on both criterion and transfer tasks.

Johnson and O'Fallon (1974) found that children enrolled longer in a home visiting program appeared to attain higher mean scores on the Peabody Picture Vocabulary test than comparison children not attending. Likewise, those parents participating more actively had children who made greater gains. Experimental-group children made greater gains on the PPVT than did children in the control group. Experimental-group children also performed as well at the end of kindergarten as did children attending Title I or regular kindergartens. Ex post facto comparisons revealed that children in the experimental-group performed significantly better than did Home Start and Head Start children. It is likely that initial differences in functioning among the various groups were present because the experimental-group children were from middle to low-income homes.

Positive effects on parental behavior were also observed. Experimental-group parents reported spending more time teaching their children and felt more knowledgeable about how their children learned and the skills they needed prior to first grade entrance. They also viewed themselves as more competent teachers of their children. However, experimental-group parents reported less interest in attending parent meetings, reading

parenting books, and in communicating with their child's teacher after the program than before.

Strom (1974) developed a Toy Talk program to improve the self image of both parent and child. The parent was trained to utilize fantasy play as a vehicle for the constructive use of power, sharing of fears, working cooperatively, and recognizing feelings. Toy Talk programs as long as ten weeks have improved maternal feelings of competence and knowledge about teaching their child (Strom, 1974; Strom & Greathouse, 1974; Greathouse, 1972) participating children also have manifested positive changes in self concept and vocabulary.

Kogan & Gordon (1975) used a microphone in the mother's ear to cue appropriate interactional behavior. During a baseline period these mothers were highly controlling, manifested flat affect, and were either overinvolved or uninvolved. They alternated from hostile, detached behavior to an intrusive, controlling style. A similar pattern was observed in their children's behavior. After eight weeks of micro-teaching, mothers displayed significantly more warmth, became less controlling and competitive, and adopted a cooperative interactional style.

Both short-term and long-term individual consultation programs have produced changes in both children's and mothers' behavior. Projects lasting a minimum of two years have produced the most dramatic gains in intelligence, which have been sustained up to three years after intervention. (Gordon & Guinagh, 1974; Levenstein, 1975)

Group Consultation Models in Parent Education

Programs utilizing a group consultation approach may have somewhat different effects. Among certain populations like alcoholics, obese persons, and abusive parents, peer-group counseling has appeared to assist

persons in making difficult changes in life style and in sustaining this new behavior.

Karnes, Task, Hodgins, and Badger (1970) examined the effectiveness of a two year group model on low-income, principally black mothers and their two year olds. The experimental and control groups were matched on relevant socioeconomic status variables. All experimental subjects were volunteers, and chose to continue for the two year period. Experimental-group mothers met in small groups for eight months each year. The first half of each weekly session was a child-centered hour; toys and positive interactional behaviors were modelled and reinforced by parent consultants. The second hour was parent-centered; the group discussed child rearing issues and practices related to their parenting role. Eighty percent of parents attended each session.

At the end of the program, experimental-group children scored significantly higher on the Stanford Binet and on the Illinois Test of Psycholinguistic Abilities (ITPA). The experimental group scored 15 points higher in IQ and 5 points higher on the ITPA than controls. No data on maternal behavior, teaching style, or attitude was collected. The performance of six of the experimental children was compared with that of older siblings. When scores from tests administered at the same age were compared, older siblings evidenced significantly poorer intellectual functioning and language development. While the two groups were quite close in age, it appears that the skills the mother was learning were not generalized to her interaction with older children, but only affected the intellectual and language development of the target child. The behavior of younger siblings was not assessed. Gray and Klaus (1970), and Gilmer et al. (1970) also found that treatment effects of home visitation diffused to younger

but not older siblings.

Badger, Elsass, and Sutherland (1974) compared the effectiveness of an intensive group parent education model with a less intensive home visitor treatment. Two groups of mothers were recruited for participation beginning immediately postpartum. One group was over 18 and the other was 16 years or younger. The mothers in each age group were assigned to either a group or individual consultation treatment. Those in the group consultation model met weekly to discuss the use of specific toys and activities which were demonstrated by parent consultants. In the home visitor treatment social workers or nurses visited in the home on a monthly basis. Toys were given to the mother, but no information about how to use them was provided; some nutrition and health information was provided. Infants were tested on a monthly basis using the Hunt-Uzgiris Scales of Cognitive Development. Both at six months and at one year of age children whose mothers participated in the group model performed significantly better. However, an interaction effect of age of mother and type of treatment was also significant. Infants of the older mothers seemed to perform equally well. But among the adolescent mothers, infants in the group model performed significantly better than infants in the individual model. A group model providing specific and structured direction combined with peer-group support may be more effective for adolescent girls than a more loosely structured individual parent education program. For older mothers the monthly home visit and testing and the weekly group meeting may be equally potent parent education strategies.

Woods, Barnard, and TeSelle (1974) trained volunteer parents to assist their children at home in language and reading skills. The effec-

tiveness of parent tutoring at school versus parent tutoring both at school and at home was compared. Children in the latter group attained higher mean scores on tests of letter matching and phoneme-picture matching. Differences between the experimental and control group were significant only on the latter test. Experimental parents were volunteers.

Lasater, Briggs, Malone, Gilliome, and Weisberg (1975) have reported both qualitative and quantitative differences in maternal and child behavior as a function of group parent education. Mother-infant dyads were involved in a parent-child center program for approximately 36 months beginning when the infant was 3 months old. Participation was intensive, varying from three to five days per week. The majority of the mother-infant dyads were young and low-income; more than half were single parents, and most were black. Attrition in the project was high, with only about 42% graduating from the 36 month program.

Significant program effects on infants' exploratory behaviors were found. Eleven-month program infants exhibited greater visual and tactile exploration of novel objects than did controls. At 24 months significant differences in style of exploration in a play room with their mothers were manifest. Initially program infants were more likely to move immediately toward toys in the room. After playing alone for a time, they moved toward their mother with a toy in hand, showing her the toy, questioning her, and using her as a resource.

Experimental mothers were observed to be more responsive. In the playroom, these mothers looked directly at the child, and talked to him/her more than did control mothers. They were more likely to feel that protecting the child was an important part of their role, and that their child could

communicate with them effectively. Differences in maternal behaviors were also manifest immediately after separation. Program mothers more quickly engaged in soothing, touching, looking, smiling, holding, with their 18 month olds than did control parents. In contrast, the latter group decreased the interaction with their child. Comparable detachment responses have been noted by Kogan & Gordon (1975) and by Ainsworth (1972) in studies of distrubed mother-child relationships. Lasater et al. also reported that program infants were observed to establish earlier and stronger attachment bonds.

Program children scores higher than control children on the Bayley Mental Development Scale, both at the end of the third and the fourth year. Program children also performed significantly better on a language concept test. Program infants vocalized more in response to novel objects, and when interacting with their mothers.

Significant sex differences were found; females in both groups performed better than males. But differences in language functioning and intellectual functioning were greater between experimental-group and control-group males than between females subjects. These data indicated that control-group males were particularly at risk, in terms of language and intellectual development.

Swan and Stravos (1973) found that low income children who did well in primary school were able to solicit information from adults and children, asked meaningful, appropriate questions, and exhibited a sense of humor. The parents reported more confidence in their children's abilities, felt they understood their child's point of view, felt more competent as childrearers, and interacted verbally with their children in a variety of contexts and in a pleasant manner.

Boger, Kuipers, Cunningham, and Andrews (1974) compared the effectiveness of three incentive levels on participation in a group consultation model. Parents of children enrolled in a daycare program met for twelve weeks to discuss the use of learning activities at home. One group was paid five dollars for each session. Transportation and babysitting was provided for another group. The control group received no concrete incentives, simply the opportunity to learn more about teaching their child. Maternal age, sex, and race did not predict attendance at meetings. However, mothers with fewer children attended more meetings. Those whose children were enrolled part-time in the day care program were more likely to attend. But maternal employment status was unrelated to attendance. Parents of first-born children in the no-incentive condition attended more frequently than parents of later-borns. This may reflect the lack of certainty many new parents have about appropriate child-rearing techniques, and their interest in acquiring such skills. Mothers with at least a high school education attended more sessions than mothers with less education. Incentives improved the attendance of less educated mothers. Single parents attended less than parents in intact families. Incentives increased the level of participation for all parents. The five dollar condition was more effective than the babysitting condition.

Children in the no-incentive group evidenced greater positive change in self-esteem than those in the incentive conditions. The greater the incentive, the less likely a positive change in child self-esteem was manifested. No relationship was found between maternal teaching style and incentive conditions; the treatment was probably too brief and unfocused to effect the actual teaching behavior of the parent.

Few studies have examined the effects of group consultation methods. Those reviewed here have all indicated that group approaches can have a significant effect on young children's cognitive development, when those programs have been systematic and intensive (involving weekly and highly focused consultation with parents). Two of the three studies indicated that children's language was improved. Only one of the studies looked at the effects on maternal behavior or other aspects of infant functioning. In this study program effects were reported in infant exploratory behavior and attachment. Participating mothers were more responsive, interacted more and in more situationally and developmentally appropriate ways. Boys may be effected differently than are girls in such intervention programs, and intervention appeared to be more critical for development in males than in females. Future intervention studies will need to be designed such that treatment and sex interaction effects will be examined (Herzog, Newcomb, & Cisin, 1972).

Combined Consultation Models

In one project both an intensive group and an intensive individual consultation model were utilized (Brandt, 1974; Johnson, Leler, Rios, Brandt, Kahn, Mazeika, and Frede, 1974; Kahn, 1974; Leler, 1974; and Leler, Johnson, Kahn, Hines, Torres, 1974).

In an initial report, Johnson, et al. (1974) children enrolled in either a one year home visitor program beginning at age one, or in a center based program beginning at age two scored higher than controls on intelligence tests six months after treatment. In this pilot study, only center children and parents were assessed on maternal behavior and knowledge of basic concepts. Center mothers were more autonomy-granting, less intruding, warmer, and were less neutral in attitude in comparison

with control mothers. Center children answered a higher percentage of the items correctly on a basic concept test. Significant differences were also observed in the home environment. Center mothers provided more appropriate play materials, and exhibited more involvement with their child.

As further data became available on this intervention program, Leler et al. (1974) reported experimental children surpassed control children after both the initial treatment year (home visitation) and after the second treatment-year (center-based program). Significant differences between experimental and control children on a test of basic concepts were found only for center-based children, not home visitor children. Changes in maternal behavior were observed for the center-only group and for the groups having both home visitation and center-based activities. The former experimental-group mothers manifested significantly greater warmth and autonomy-granting behaviors. Parents in the latter experimental group also exhibited more positive parenting techniques: they were more affectionate, less critical, and encouraged child verbalization more. The home environments of control-group and experimental-group parents were not significantly different before treatment. But at the end of the first and the second year, total scores on the Caldwell Home Stimulation Inventory were significantly different in favor of the experimental group. The largest differences were found on two dimensions: presence of play materials and organization of home environment.

As a part of this project Brandt (1974) examined the relationship between parental and child variables and success in the program. Final scores were greatest for families in which the child performed initially

well on the Bayley, in which maternal education and family income were high, and in which other environmental process variables related to achievement and intelligence were high. However, the greatest gains were observed among mothers and children who scored lower on these variables. These parallel the findings of preschool intervention studies (Herzog, et al., 1972) in which those who are more advantaged within the low-income group seemed to attain higher scores and in which the more disadvantaged made the greatest gains. Hess (1976) and Bronfenbrenner (1973) have also suggested that those making the greatest gains are least likely to sustain those gains.

Conslusions and Implications

In examining the literature in this area, several questions have arisen.

1. What are the characteristics of effective parent education programs?
2. How do these programs affect parent and child behavior?
3. Which parents benefit from such programs? What are their characteristics?
4. Do different programs programs produce differential effects with parent populations having varied characteristics?

Let us deal first with the question of the characteristics of effective parent education programs. There is little direct evidence relating the specific characteristics of programs to their outcomes. Therefore, much of this discussion is based on personal speculation following examination of the descriptions of the parent education programs.

Effective programs have appeared to be rather prescriptive for the parent consultants. Objectives have been clearly specified. Activities have been carefully developed to realize those objectives. And the

activities have been implemented with considerable consistency and uniformity across parent-child dyads. This uniformity has reflected an attempt at quality control rather than program rigidity. In many instances, these activities have been developed, often following criteria such as their theoretical validity, their relationship to stated objectives, their effectiveness, and their utility. In many projects, parent consultants have worked hand-in-hand with supervisors and project directors to accomplish this. This process has operated as a self-righting mechanism for project activities and probably has made it possible for somewhat contradictory characteristics to co-exist within these projects. One such characteristic was the emphasis on personalizing and modifying the content of the consultation so that a proper fit with each parent-child dyad was achieved. Lambie, et al. (1974) has argued that canned activities and objectives must be modified in line with:

(a) the parent's personal interactional style;

(b) the parent's personal goals and goals for the child;

(c) and the parent's assumptions about how children learn and develop.

Effective programs have achieved a proper balance between prescriptiveness, on the one hand, and personalization, on the other. Systematic supervision of consultants and continuous monitoring of project activities undoubtedly has facilitated attainment of this balance. It is probable that carefully specifying objectives and designing activities to realize those objectives yield high pay-off in the effectiveness of the program in these targeted areas. When the areas in which changes are expected are known, they are tested for, and significant effects are often found. In programs where the consultant functions principally as an enabler (i.e. helping the parent to clarify his own objectives and preferred interactional

style) impressive effects may not be produced for at least two reasons: (1) this may in fact be a less potent, more diffuse parent education treatment and (2) effects may have been produced in areas which researchers may not have had the foresight (or skill) to measure. Undoubtedly, the "currriculum" of the parent education programs varies from one parent-child dyad to another even in highly prescriptive programs. Specifying those aspects of the program that are critical for particular changes in parent/child behavior remains one of the very difficult research tasks.

The characteristics, outlined above, represent hunches about what has distinguished effective programs. Research is needed to confirm or invalidate them. Maintenance of careful records of the program as it is implemented and the identification and measurement of relevant process variables will need to be accomplished. This approach has been utilized in some research about early childhood classroom programs. Stalling's (1976) study of Follow Through classrooms, and Miller and Dyer's (1976) study of planned variations in Head Start provide sound models for documenting what actually happens in educational programs. These investigators identified process variables through direct observation and then determined which of these variables distinguished the various classroom models. Then the relationship between the variables and child outcomes was examined. In parent education, it might be fruitful to examine process variables such as the responsiveness of the parent consultant; the specificity or programmed nature of the learning activities; the consultant's use of modelling and selective reinforcement; the encouragement of parent generation of alternative activities for teaching specific concepts; the consultant's ability to articulate to the parent the relationship between selected learning activities and the child's

developmental level; and the consultant's tendency to outline alternative parenting strategies and their consequences. Then it should be appropriate to examine their relationship to maternal functioning such as teaching style, locus of control, and self-image, and to specific aspects of child functioning?

Those programs which were particularly effective in producing substantial changes in children's functioning and in maternal behavior have worked with the mothers for a minimum of 18 to 24 months. Long term consultation that changes in keeping with the increased competence of the parent and the child appears to be critically important for substantial and sustained changes. Ira Gordon's and Phyllis Levenstein's projects have provided the most promising data about the continuing, significant effects of such programs (Gordon & Guinagh, 1974; Levenstein, 1974).

We have primarily considered the characteristics of the more effective versus the less effective programs. However, it is equally possible that some programs may have detrimental effects on parents' and children's behavior. Lambie, et al. (1974) has reported that in one minimal treatment group in which home visitor turnover was high, little supervision was provided, and the treatment was unfocused. Attrition among participating families was high. And negative but non-significant changes in children's functioning was observed. This issue is principally raised to check our zeal in setting unrealistic expectations for parent education programs. Doing "some kind of parent education" in early childhood programs may not benefit the child or the parent; it may in fact be destructive. Haphazard programs may operate to shake the confidence a parent has already acquired. Programs need to be carefully conceived, judiciously monitored and evaluated, and planned in ways reflective

of relevant theory and research data.

Let us consider this question: what changes in child and parent behavior do effective programs produce? Effective parent programs have had significant effects in a number of areas: maternal teaching style and attitude, and child intelligence, language development, and exploratory behavior.

In several of the programs reveiwed here, participating mothers were more likely to use elaborated, syntactically complex language (Mann, 1970) and more task-appropriate language (Barbrack & Horton, 1970; Sandler, et al., 1973) than non-participating mothers. They were also more likely to encourage the development of verbal skills (Lasater, et al., 1975). Such mothers also demonstrated greater awareness of the characteristics of their children, greater responsiveness to their children, more ability to accurately "read" their children's behavior, and greater willingness to engage in reciprocal, cooperative play (Andrews, et al., 1975; Gordon & Guinagh, 1974; Kogan & Gordon, 1975; Lasater, et al., 1975). In one study, participating mothers were reported to be more autonomy-granting than the comparison group (Andrews, et al., 1975). Likewise, the parent's skill in designing an optimal home learning environment was found to improve in several of the studies. These parents provided more appropriate play materials and manifested greater awareness of the learning potential of usual household routines (Andrews, et al., 1975: Gordon & Guinagh, 1974; Leler, et al., 1975).

The effect of these parent education programs on children's functioning has been well documented particularly with reference to changes in intellectual and cognitive functioning (Andrews, et al., 1975; Gilmer, et al., 1970; Grantham-McGregor & Desai, 1975; Karnes, et al., 1970; Lambie, et al., 1973; Lasater, et al., 1975). Some programs have demonstrated sustained

gains in these areas for up to three years after intervention (Gordon & Guinagh, 1974; Levenstein, 1974). These and other data led Urie Bronfenbrenner (1974) to hypothesize that parent education preceeding enrollment of the child in classroom-based programs had the greatest likelihood of producing sustained gains in intellectual functioning.

Significant improvement in children's language development has been reported. Increased syntactical complexity, improved questioning skills, greater knowledge of basic concepts and higher rates of infant vocalization have been observed for children participating in parent programs (Andrews, et al., 1975; Henderson & Garcia, 1973; Lasater, et al., 1975; Mann, 1970).

Children whose parents participated have demonstrated greater curiosity about novel objects, more willingness to independently explore strange play environments, increased skill in using parents as informational resources, and more cooperative play with parents (Kogan & Gordon, 1975; Lasater, et al., 1975). In one study participating infants were observed to attach to their mothers more strongly and earlier than control infants. These mothers were also observed to be more responsive than the control mothers. Ainsworth's research (1972) would lead one to expect that if a mother becomes more responsive and skilled in reading her child's cues and if the infant's own behavior becomes more responsive to the mother's, then earlier and stronger affectional would be more likely.

Gray and Klaus (1970), Gilmer, et al.(1970), and Ware, Orgon, Olmsted, and Moreno (1974) found that the effects of parent education programs diffused to younger children in the family. The skills that parents learned to use in interacting with the target child were probably transferred to their interaction with younger, but not older children.

Let us consider another question. What types of parents benefit from parent education programs which emphasize enhancing the mother's

role as teacher of her child? Because participants have generally been volunteers, many professionals have assumed that participating and non-participating parents from the same socio-economic class were systematically different in important ways. A national study of the effects of parent participation in Head Start has reported that frequent participants were relatively better educated, younger, had fewer children, and were more likely to have a previous history of involvement in community affairs (MIDCO Educational Associates, 1972). Boger, et al. (1974) found that mothers with more education and fewer children and whose first-borns were enrolled in the day care program were more likely to participate in a group consultation parent education program.

Brandt (1974) attempted to determine whether particpating parents with whom the program was very effective could be distinguished from participants for whom the program was less effective. The program was most effective with the families in which the parent had more education, slightly higher incomes, and in which there were fewer children. In this group, other environmental process variables related to achievement and intelligence were also high. However, the largest gains on criterion measures were made by chidren and mothers who were lower on these variables. Similar results have characterized research studies investigating the effects of classroom programs with low income children (Herzog, Newcomb, & Cisin, 1972). The characterisitics of those who maximally benefit may reflect an optimal match between the program content, the delivery strategy, and the client characterisitcs. Other types of programs with different content or different delivery strategies may be more effective with different populations. Future research will need to document which types of programs are maximally effective for which types of parents and children.

Let us consider the fourth question: What are the different effects of

different types of programs? Do group consultation models result in slightly different outcomes than do individual consultation approaches? Do such programs facilitate the development of peer-group support systems and of the ability to use peers as information resources and supports in maintaining new behaviors? Does individual consultation, particularly when home-based, allow a more personalized and individualized treatment in which a participant's development in targeted skill areas is accelerated? Likewise, if the session occurs in the home, is rapid and extensive change in the home learning environment more likely? Bradley and Caldwell (1976) and Elardo, Bradley, and Caldwell (1975) have reported that ratings of the home environment are predictive of children's intellectual development. Badger, et al. (1974) found that the group model appeared to be particularly effective for the children of adolescent mothers. Whether group or individual consultation approaches produce different outcomes has not been carefully tested, as yet; this is a provactive question for future research.

The relationship between critical aspects of parent education programs and outcomes may differ in rural as opposed to urban populations and in Mexican-American as opposed to black, Native-American, or white communities. Different strategies may be required in order to promote optimal changes in parent and child behavior. The Houston Parent Child Development Center, working with Mexican-American families, has incorporated systematic activities for fathers. These activities are supportive of the instrumental role the father plays in the Chicano family; for example fathers tend to be most active in the policy-making aspects of the program. This intervention program begins with a series of home visits. Later, group meeting are introduced. The effectiveness of a parent education strategy

will need validation in different locations, and with different populations through careful replication of the program. Levenstein (1974) has been one of the few investigators to systematically validate her curriculum model in this manner. At present, three parent child development center models (New Orleans, Birmingham, and Houston) are being replicated at other sites.

Several interesting questions remain. What are the long term effects of such parent education programs on variables like the parent's teaching and interactional style, and the parent's awareness of how the home environment can continue to provide developmentally appropriate learning activities? Do parents continue to develop the new skills and knowledge needed to foster continued development of the maturing child? Have parents acquired skills that transfer to their interaction with that same child when he is older?

Other questions relate to the impact of the program on the family as a system. How are role relationships between parents in intact families changed? Do programs which systematically involve the father produce different results in intact families from those programs which focus only on mothers? How is the father's behavior changed by such systematic training? Does such training alter his effect on the child's development, or change the effect of the child's behavior on the father? How are relationships with external institutions and agencies affected by the parent education experience? Do the changes brought about in the child's behavior influence the quality of his interactions with other key adults. Haberkorn's research (1973) suggests that training mothers brings about changes in the child's behavior which may improve the quality of his interaction with his teacher.

Another area for future research is the examination of the effectiveness of alternative systems for enhancing the parent's skill as teacher. What types of networks involving clinics, hospitals, private pediatricians, television, radio, packaging for consumer products (like Life cereal boxes), magazines, newspapers, churches, and retail stores can be exploited to deliver parenting information? What is the relative cost-effectiveness of the various strategies for different parent populations?

Is frequent testing observed by the parent and monthly (or bi-monthly) consultation as effective as more frequent and intensive intervention with certain populations? What types of parents would be most likely to utilize systematically a drop-in resource center which provided information about toys, child development, nutrition and health? What type of changes in child behavior and in parental knowledge and behavior would be produced by regular use of such centers? Obviously a great deal of systematic research and development remains to be done.

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